

Science Notes

Instructions: Write the notes below in your science notebooks.

Lesson 7

Joints

You probably know that an adult has **206** bones in his body. Bones are stiff and hard. They are held together by **connective tissue**. There are **three main types** of connective tissue in our skeletal system. They are **cartilage, tendons, and ligaments**.

Tendons connect muscles to bones. They act like tough cords. Tendons allow the muscles to pull on bones. If you look at the back of your hand and move your fingers, the bands you see moving from your fingers to your wrist are actually tendons.

Ligaments are strong, fibrous straps. Some are round like ropes. Some are flat like ribbons. Bones are fastened to other bones by ligaments. Ligaments can stretch more than tendons, allow bones to move without coming apart, and make a joint more stable. Ligaments hold arm bones in place in the shoulder joints. **Ligaments also keep knees sturdy.**

Cartilage is a flexible, rubbery substance. It supports bones and protects them from rubbing against each other. A developing baby's skeleton is made of cartilage. After birth, real bone replaces the cartilage skeleton, although cartilage stays at the end of the bones.

Joints

Our bodies move because of joints. **Joints** are where two bones meet. There are four common types of joints found in the body that allow movement and one that does not. These joints are: -

Hinge Joints - Allow bones to move against each other like the hinges on the door. These allow joints to flex (bend) and extend (straighten out). E.g.: -knee, elbow, and fingers.

Ball and Socket Joints- Allows joints to move in a circle (rotate). E.g.: - shoulder, hip, ankle, and wrist.

Pivot Joints - Allow joints to move from side to side. E.g.: - neck.

Plane Joints - Allow joints in the hand to glide over each other and allows the spine to bend and twist.

Suture Joints - do not allow movement. These are called immovable joints. E.g.: skull.

Calcium helps bones grow strong and healthy. Dairy products contain calcium. E.g.: milk, cheese, and yogurt. Dark green vegetables also contain calcium. E.g.: spinach broccoli and collard greens. Exercise makes bones healthy. Sitting up straight with good posture, and never sitting slumped over also keeps bones healthy and makes them grow and develop properly.



Pivot
Rotates side to side



Hinge joint
Bends and straightens



Gliding
Moves up and down and side to side



Ball and Socket
Moves all around